

Participatory Flood Modelling for Negotiation and Planning in Urban Informal Settlements

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Abstract

Participatory modelling in water resource management – involving diverse actors in what is traditionally a purely analytical process - is thought to broaden stakeholder engagement and improve outcomes. Further research and case studies are required to explore the practicalities of integrating meaningful participation within modelling processes in the water sector. Participatory modelling may be of particular interest within the context of urban informal areas, where the confluence of climate change, urbanisation, and contested land require new methods for engagement and planning. This paper develops new case-based knowledge to inform the application of participatory modelling and planning for informal urban areas. A flood modelling project in the large informal neighbourhood of Kibera in central Nairobi, Kenya is analysed using a newly established framework for the classification of participatory modelling approaches developed by Basco-Carrera et al (2017). Conclusions suggest that the further upstream more diverse stakeholders can be involved, the better the chance of co-producing new knowledge and of creating implementable plans and policies. At the same time, delivering “co-design” of modelling processes in areas of limited cooperation requires a strong vision for participation, a tolerance for contention, a willingness to learn between actors, and a budget to support additional time inputs.

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